

REMARKS

Claims 1 - 16 have been rejected under 35 U.S.C. § 102 as being anticipated by U.S. Patent No. 6,195,550 to Sollee et al. (hereinafter "Sollee"). Applicant disagrees, and respectfully submit that the claims are in condition for allowance.

Rejections under §102

The present invention relates to a wireless data communications system which monitors the location of a device based on changes in RF characteristic data in different areas.

Independent claim 1 recites:

In a system wherein a portable device, arranged for wireless data communications with a computer, is located using radio signals between said portable device and fixed devices, and wherein said computer uses a database relating radio signal characteristics to location to compute location of said device, and communicates location data to said portable device using wireless data communications, the improvement wherein said computer communicates characteristic data representing radio signal environment in a sub-area corresponding to said location data to said portable device, and wherein said portable device monitors received radio signals corresponding to said data representing radio signal environment to detect a change in location of said device.

Sollee relates generally to wireless communications, and is directed to a method for messaging during Inter-VLR (Visitor Location Register) updates wherein a mobile station communicates with the VLR and other wireless elements. As would be understood by one of ordinary skill in the art, a VLR is a local database function employed in GSM (Global System for Mobile Communications) that maintains temporary records associated with individual subscribers. The VLR contains subscriber location and service information that is accessed by the Mobile Switching Center(MSC) to retrieve information for the handling of calls to and from subscribers currently being served by that MSC. In the first instance, a VLR

is not a feature utilized to monitor the specific location of a mobile unit. A VLR may, by virtue of some implementations of a GSM network, provide information regarding which cell of a network a particular mobile unit may be located within, by determining which cell tower the unit communicates with. However, this is not the purpose of a VLR, and, in fact, a VLR still cannot provide the type of location information claimed in the present invention in light of the specification (which contemplates, e.g., location information used to “track the location of articles as they move through a facility.” (Specification, ¶0020)).

The Examiner contends that with regard to independent claims 1, 6, 11, and 14, Sollee teaches a system/portable device wherein a portable device, arranged for wireless data communications with a computer, is located using radio signals between said portable device and fixed devices, and wherein said computer uses a database relating radio signal characteristics to location to compute location of said device, and communications location data to said portable device using wireless data communications. (In support of this position, the Examiner cites Sollee at column 3, lines 27-34.)

However, the cited portion of Sollee fails to disclose or suggest these features. Rather, at column 3, lines 27-34, Sollee merely sets forth a detailed procedure for disclosing the transmission of Location Area Code values to mobile stations. However, this portion of Sollee fails to disclose or suggest several aspects of the claimed invention, including a *database relating radio signal characteristic data representing radio signal environment in a sub-area corresponding to location data to said portable device*, and using this data *to detect a change in location of said device*. Again, while Sollee may loosely relate to location information in the sense that a radio may be located within a given cell, this is true for any

wireless communication system, and is distinct from the scope of the claimed invention and its objectives.

The Examiner also refers to column 4, lines 50-65 as teaching elements recited in the claimed invention, including computer-directed communication of characteristic data representing radio signal environment in a sub-area corresponding to location data to the portable device, wherein the portable device monitors received radio signals corresponding to the representative data in order to detect a change in the location of the portable device. However, the cited portion of Sollee fails to disclose or suggest these features. This portion of Sollee discloses “an improved method whereby an MS reuses the same TMSI between MSC/VLR’s when it initiates an Inter-VLR location update, thereby effectively reducing the quantity of network work-time which must be expended handling subscriber Inter-VLR mobility events on the A-interfaces.” (Col. 4, lns. 50-65). Sollee is specifically tailored to providing a method whereby the TMSI of a mobile station is reused and new TMSIs are not reallocated each time a mobile station performs an “Inter-VLR location update.” In accordance with the figures and specification of Sollee, this is achieved by its described system whereby wireless communication facilitates the transmission of data to minimize the frequency of system-slowness events. However, this is markedly different from the features of the claimed invention.

For at least the foregoing reasons, Applicant respectfully submits that independent claims 1, 6, 11, and 14 are in condition for allowance.

With regard to claims 2 and 7, the Examiner contends that Sollee teaches a system/portable device wherein the portable device uses characteristic data and radio signals corresponding to the radio signal environment in order to update said location data, citing

column 4 at lines 11-36. However, Sollee at column 4, lines 11-36, describes the authentication procedure implemented in accordance with the system described in Sollee. Specifically, the VLR requests authentication from the HLR (“Home Location Register”) which subsequently authenticates information specific to the mobile station. Claims 2 and 7 are not related to authentication, but instead relate to use of characteristic data and radio signals to update the location of a portable device. For at least this reason, and for the reasons discussed above with respect to independent claims 1, 6, 11, and 14, Applicant respectfully submits that these claims are in condition for allowance.

With respect to claims 4, 9, 12, and 15, as discussed above, Sollee at column 4, lines 11-36 discloses an unrelated system of authentication that bears no relation to the claimed invention. Further, at column 4, lines 36-49, Sollee teaches a messaging scheme in which the MSC/VLR interacts with other elements of the system to satisfy a Location Update (LU) request. This requires a measure of coordination with the HLR and the repeated transmission of messages to and from the MSC/VLR to the HLR. This portion of Sollee fails to disclose or suggest the features recited in claims 4, 9, 12 and 15. For at least this reason, and for the reasons discussed above with respect to independent claims 1, 6, 11, and 14, Applicant respectfully submits that these claims are in condition for allowance.

Similarly, claims 3 and 8 are rejected with a citation to column 3, lines 59-67 and column 4, lines 1-11. Claims 3 and 8 are directed to an arrangement whereby the portable device is arranged to transmit location data to a computer in association with other data and further where the portable device transmits updated location data in association with other data. Sollee at column 3, lines 59-67 describes Figures 2 and 3, namely, “preferred messaging sequences between subsystems.” However, this portion of Sollee fails to disclose or even

remotely suggest the claimed method. The second citation in the Office Action is also not relevant: at column 4, lines 1-11, Sollee discloses another transmission scheme that is unique to Sollee's system and has no bearing or passing similarity to the present invention. For at least this reason, and for the reasons discussed above with respect to independent claims 1, 6, 11, and 14, Applicant respectfully submits that these claims are in condition for allowance.

Finally, claims 5, 10, 13, and 16 are rejected based on Sollee, column 1, lines 47-58. There, Sollee provides general background information about the growing number of cellular subscribers in metropolitan areas and the implications of such growth in the context of Inter-VLR location updates. This portion of Sollee only relates generally to how an increase in work required to handle mobility can result in a decrease in the number of subscribers the network can support. For at least this reason, and for the reasons discussed above with respect to independent claims 1, 6, 11, and 14, Applicant respectfully submits that these claims are in condition for allowance.

CONCLUSION

In view of the foregoing remarks, Applicant respectfully submits that the pending claims are in condition for allowance. Applicant hereby authorizes the Commissioner to charge payment of any additional fees or credit any overpayment associated with this communication to Deposit Account No. 02-4377.

Respectfully submitted,



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